

Martian devil

On March 14, a giant rose from the dust on Mars and raced across the planet's surface. This behemoth was no alien: It was a towering pillar of twisting wind known as a dust devil. Photographed by a NASA spacecraft passing overhead, the swirling storm stood 20 kilometers (12.4 miles) tall and stretched more than half the width a U.S. football field.

These whirlwinds are common on the Red Planet, but “what’s interesting about this dust devil is it’s very, very tall,” says planetary scientist David Choi. “To see one this size is very rare,” the researcher at NASA’s Goddard Space Flight Center in Greenbelt, Md., told *Science News*.

Dust devils differ from tornadoes. Though both natural phenomena involve swirling winds, tornadoes form in the sky as part of a strong storm and descend to the ground. Dust devils, in contrast, form from the ground up. Hot air rises from a sun-heated patch of ground. As the air climbs, it begins turning and becomes visible as it picks up dust. Violent tornadoes can cause widespread destruction, but most Earthly dust devils would have a hard time pushing you over.

In many parts of the United States, spring is peak tornado season



Scientists studied the length of the shadow cast by this Martian dust devil and determined that the storm stood 12 miles high. Credit: NASA, JPL-Caltech, UA

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Spring has sprung on northern Mars, too, where temperatures may climb up to -25 degrees Celsius (-13 degrees Fahrenheit). Though the atmosphere of Mars is too weak to support tornado formation, scientists have used photographs of the Red Planet to document dust devils there.

A photograph of the latest Martian dust devil was captured by HiRISE, a powerful camera on board NASA's Reconnaissance Orbiter satellite. The storm popped up in the Amazonis Planitia, a smooth plain north of the Martian equator and west of Olympus Mons, a giant mountain. A clear mark on the planet's surface traced the path of the dust devil.

Although Earthly dust devils may stand hundreds of meters (up to thousands of feet) tall, they're still pipsqueaks compared to their Martian counterparts.

Power Words (adapted from the New Oxford American Dictionary and nasa.gov)

dust devil A small whirlwind or air vortex over land that's visible as a column of dust and debris.

Tornado Violently rotating winds that have the appearance of a funnel-shaped cloud and advance beneath a large storm system.

orbiter A spacecraft designed to go into orbit, especially one not intended to land.

Olympus Mons The largest known volcano in the solar system.



Dust devils: They're not just for Mars. This storm showed up in Arizona. Credit: NASA